



# Groundwater Protection and Water Wells Workgroup Meeting

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*Wednesday April 2, 2014*

*Hosted by the DEC*

*1st floor conference room 555 Cordova St. Anchorage with teleconference*

**Attendees in Anchorage:** Charley Palmer (DEC), Kathleen Kastens (Private Well Owner/Facilitator), Wayne Westberg (WWC), Chris Miller (DEC), Rebecca Baril (DEC), David Schade (DNR), Jeff Ellison (WWC), Jeff Warner (DEC), Bill Kranich (PE / PWS Owner – Southcentral).

**Attendees via teleconference line:** John Craven (PWS Operator), Lee Ice (WWC), Chuck Ice (WWC), Dan Brotherton (WWC), Jim Munter (Hydrogeologist/Consultant), Roy Robertson (DEC), Ted Schacle (WWC), Craig Seime (WWC).

DEC = Department of Environmental Conservation

DNR = Department of Natural Resources

WWC = Water Well Contractor

DOL&WD = Department of Labor and Workforce Development

PWS = Public water system

## Meeting Minutes

**Facilitator:** Kathy Kastens

### **Introduction**

- Roll Call
- Review of minutes
  - John Craven's title needs to be changed to PWS operator.
- Action Items
  - Sanitary Seal – proposed change definition to include other possible names
    - Wayne: This was clarified in the definitions.
  - Water Rights definition on private water wells website
    - David: Still working on this.
  - Send link for private water wells website to group
    - Rebecca: Did not do this, will send out the link with the minutes for this meeting.
  - Send updated minutes from January 22<sup>nd</sup>
    - Will make changes and send with April 2<sup>nd</sup> minutes
  - Best Management Practices (BMPs) for Decommissioning Water Wells and Boreholes: consider what the group would like to see done with these.
    - David: It seemed like there was some confusion from the last meeting as to the direction the group would like to move.

- Chris: The last meeting moved very quickly and conversations took sharp turns often. Made for some unclear moments as to what final decisions were made.
- David: It seemed we all agreed on the BMP. The only concern is that DNR can't have a policy overriding a regulation. We can't have something causing confusion and the public to be misinformed. Don't want people thinking it's a regulation while it isn't.
- Bill suggested we hand the BMPs off to DNR with the recommendation to revise to regulations.
  - David agreed and added that while we consider it a BMP, he cannot call it a policy because it causes a legal problem.
- Jim suggested that we label the BMPs as a DRAFT, so that no one picks these up with the wrong impression. Hopefully, at the end of the day, we will be able to adopt these with no issues.
- John: I did a search on BMPs for wells and decommissioning and was unable to find anything of comparison to what we are doing. Not sure what the concept is behind this BMP. Recently, held a meeting with a hydrologist and a civil engineer and asked them what they thought of the BMP and what it meant to them. They responded "Whatever the driller says it means". There is something missing from this document that ties the title with everything we are doing in this workgroup. What is the intent?
  - Kathy responded that that will happen when the letter is finalized to the state.
  - John: Still not sure how this fits into the notion of protecting the resources of the state. The group should set up an intent for those who read the BMPs. If all regulation were to be revoked and taken down, the backup of BMPs need to have strong intent.
  - David added that these BMPs need to replace regulations eventually, otherwise, it's just a great idea.
  - Kathy: It sounds like we still need to go over the decommissioning practices. Does the current draft meet our needs to protect public health and the aquifer? We agreed last time that it would serve best to draft it up for regulation to the state. Does it meet the decommissioning regulations as they are now. (Kathy quoted Decommissioning regulation **18 AAC 80.015(e)**)
  - David: In the letter to the agency we can ask for a regulation change, an approved process until the regulation is made, and an accepted BMP when writing the letter.
- Well Construction Standards: Check into Home Depot pitless NSF approval.
  - Craig: There is no NSF approved at Lowe's or Home Depot.
- Well Construction Standards: David to review C and G under "Prohibited Actions"
  - David: Yes, will provide suggestions when we get to construction standards.
- Well Construction Standards: DEC to compile edits into a draft document up to H, and include remaining sections with Wayne's suggested edits indicated. Switch out all definitions that are already in Decommissioning document and highlight.
  - Charley: Sent out the updated versions along with the agenda for this meeting.

## Issues and Concerns

- Decommissioning BMPs
  - Kathy: John was talking about ensuring that we are being clear that we are trying to protect public health.
    - Chris: The title right now is just a placeholder.
    - John: Maybe we could add a footnote or something for “John Q. Public” to understand what he’s reading and what it is for. Some people other than well drillers will be reading this.
    - Kathy: Would it help if we didn’t put these BMPs out for the public until we have them set as regulation? Add something to say that it’s for professionals and does not preclude the user from regulations?
    - John: That would nail it down.
    - Chris noted that nothing in the BMP states that it has to be performed by a professional.
    - Kathy: We will work on adding a disclaimer for the reader.
  - Kathy moved on to edits made.
    - Charley: Added ANSI to the definitions. Also made edits to the aquifer definition, providing the alternate definition from the DNR.
      - Bill suggested that we leave out the term “economical”.
      - Wayne asked whether that term would cause a problem with water rights?
      - Charley looked into background for the terms usage, but hasn’t received any feedback yet.
      - Jim: I have read many different definitions from many different sources, economical pops in a few, but would like to see it go away.
      - Charley: The textbook definition from Driscoll’s “Groundwater and Wells” does not use “economical” when describing the hydrological aspects of aquifers, but does when describing it in terms of water wells.
      - Wayne added that the proper definition needs to be available to carry through to construction.
      - Kathy: If we use the definition from DEC verbatim, we should reference it, if we don’t use it, we can take the word out.
      - Charley added that if we change the definitions and add the BMP to regulations, we will have to also suggest the definitions be changed as well.
      - Jim suggested we use the definition for “Groundwater”, by Freeze and Cherry. Use “significant” instead of “economical”.
      - Kathy suggested that we could provide a general definition and reference DEC and DNR definitions below it.
      - Chris suggested we take it out for this purpose.
      - Wayne: We need to suggest that the current definition be changed from regulations.
      - Chris: We need to first assure that the definition we propose, doesn’t cause any issues.
      - Kathy: If we decide to add definition changes, we should list them in the letter. Jim could you put together a definition or reference and send it on?

- Charley: We just need to clarify in the letter that we are changing definitions that are in regulations.
    - Jim suggested we may be covered for now by calling it a draft.
    - Kathy: That would help to keep things straight, but we should keep references to DEC and DNR.
  - Wayne: Bentonite definition
    - Charley: Made changes to definition per Wayne's suggestion.
  - Charley: Added definition for casing, defined in construction and we talk about it later in the document. It is essentially the definition from the construction BMPs. Added Wayne's suggestion to add "steel".
    - Wayne added that "steel" is the only thing that the ASTM A 53 applies to. The others are governed by NSF.
  - Charley: Also added PVC and HDPE which are not in construction standards.
  - Bill: Can we go back to grout? There are some places that use cement grout, and should be considered to add to definitions.
  - Charley: Current AWWA A 197 that we are trying to make clearer. In that standard it discusses environments and defines where it's appropriate, but we don't discuss that in the BMP.
  - Wayne: The BMP is purposely biased to bentonite because it works best.
  - Bill: In some places, like high pressure artesian, the cement may work better.
  - Wayne: Engineers tend to have a concrete bias. If they have an option they will go with cement or concrete. In permafrost areas, you're inviting problems. We also know, under pressure, cement or concrete will crack and leach water and migrate. Yes, it's used and there are circumstances that it should be used, but since engineers are taught in the classroom about cement, that's what they will choose.
  - Ted: I agree. Concrete tends to shrink away from the casing.
  - David added that we reference to an experienced professional for flowing artesian wells, so in the situation they can decide what is best.
  - Bill: That makes sense, and is a slightly picky point. The alternative can still be approved.
  - John: This is a good example where the field should be updating the education programs. The experienced field workers need to go to the education programs and tell them the way it should be, and what actually works. There must be some way to get their attention to solve your problems.
  - Jim: Can we go back to groundwater? There are two different definitions, one includes the unsaturated zone. Textbooks defines groundwater as water in zone of saturation.
  - Charley suggested we use the DNR definition, and recommend DEC change their's.
  - Jim: Agreed. DNR's definition is wordy, but it works and is not worthwhile to change it.
  - Kathy: Does that sound good to everyone? (No comments) Ok, we will suggest the change to DEC for "groundwater".
- Charley: Added the term "grouting", added "NSF", added "out of service". "Out of service" is interesting, as it talks about 90 days, but we had talked about 1 year. Do we

want this defined, or should we just leave it out? We left it in the construction BMPs so far.

- Jim: I like the year, but not the 90 days.
- Dan: This term has confused DNR, and it will confuse the public too.
- Kathy: (quoted definition for “abandoned well”). As long as the well is maintained, it is not abandoned.
- Dan: What is maintained?
- Kathy: The definition of maintained is referenced in the definition for abandoned.
- Dan suggested that it be spelled out more clearly.
- Jim added that he has looked at that definition and we don’t want to go into that much detail and cause more confusion. Likes it the way it is.
- Dan suggested that the 1 year be removed.
- Ted added that he knows of many people that go out of state for a year or more and aren’t around to maintain their well.
- Charley: The regulation’s definition of maintain are those items listed in 18 AAC 80.015(b), which essentially include:
  - Casing must have a sanitary seal;
  - 1 foot casing stickup;
  - Must be grouted to at least 10 continuous feet within the first 20 feet of depth;
  - Adequately protected against flooding; and
  - Surface grading around wellhead to promote drainage away from well 10 feet in all directions.
- Kathy: Nothing says they have to be around to check it once a year.
- Dan: The definition of maintain is an active state.
- Ted: Will there be any grandfathering process? There a large percentage of drilled wells that are not grouted. What will we require for that?
- Kathy: We aren’t necessarily looking for wells that aren’t grouted. We are looking for seals and/or a cap. We are only looking for grout if there is an active case of contamination that can be narrowed down to coming from a particular well that is allowing for a pathway to the aquifer. We are aware that the 1 year is a thorn in some members’ sides.
- Dan: It allows for a regulator to come pick out a farmer who has a well, and tell them it is out of compliance.
- Kathy: If the well is properly maintained than there shouldn’t be an issue.
- Dan: People in the Departments didn’t understand, and it took him a year to deal with.
- John: It sounds like this is causing an issue and we should consider clarifying the reference.
- Bill: It is already clarified in the regulation that is defined.
- Jim: Agreed that if it wasn’t grouted when it was drilled, DNR would have won. There are a lot of wells that aren’t grouted, not ever built to standard for public supply well, so now if that is the deal for the new use, it won’t work.
- Wayne: Do we need to define “grandfathered”?
- Kathy: We may have to.

- David: The first part of the sentence is not used, if it is used then it's not an issue. Second is not maintained. If you are saying non-use over time, it becomes an argument over beneficial use of the well.
- Ted: This needs to be taken care of so that it is not swept under the table.
- Jim: Ted, would you work with me on this to come up with an acceptable wording/definition?
- Kathy: So Ted and Jim will work on a new wording, and I think we need to throw out "out of service".
- Charley: Ok, I will throw that out in the construction standard as well.
- Charley: Sanitary well seal. I added in Bill and Wayne's proposed definition. Bill proposed cap over seal.
  - Bill: Cap was preferred because it points folks to think of a cap type of closure. Maintenance wise, bolts aren't tightened. Prefer that we have sanitary seal for the compression/water-tight seal.
  - Charley: Sanitary well cap or seal? Added water tight well cap or seal, in order to reference what we call a sanitary seal in our regulations.
  - Bill: The definition isn't really covered in DEC regs.
  - Jeff E: Water tight seals caps are still vented. If you submerge it though, it won't come in.
  - Bill: There are places where you want the closure of top of casing to be watertight.
  - Charley: In sanitary seal, we say there is a vent.
  - Bill: In the industry whitepaper it talks about it. The cap is secure and bug proof and vents as a sanitary well cap. The watertight well seal is more used in the compression type.
  - Charley: Would a welded plate be a watertight seal? Remember we are talking decommissioned. The common practice is to weld a plate. We don't have that defined.
  - Wayne: We don't need to, it's in the procedure.
  - Bill: The second part of watertight needs to be stricked.
  - Charley: So the 1990 definition needs to go to the sanitary well cap definition.
  - Jim: For "static water level", at the end add 'or recently occurred'. Just to make sure it's clear that the water wells are not affected by pumping.
  - Charley: We will add that. Down under 4.0 refer to in general standards section for sanitary well/cap/seal. What are we saying?
  - Bill: Sanitary seal should be fine.
  - Charley: Watertight?
  - Bill: Yes. And why do we pour a sack of bentonite over the casing?
  - Charley: We pour it in attempt to seal the annulus. This was the proposed alternate method, since it was decided that pulling the casing or perforating the casing was not practical.
  - Jim: For flowing artesian wells "need to hire a professional", but we aren't actually clarifying that this will be checked. Suggest design and verify the placement of inert substances to stop the water.
  - Bill: How would one verify?
  - Wayne: By the lack of flow. Is there a problem with the wording?
  - Charley: If it's not done what's the repercussion?

- Jim: They have to go back and do something different.
- Kathy: We will add “verify placement” in.
- David: We have to play with the language. We need to clarify that it has to work. We don’t want to imply that the consultant is the one to verify if it worked. We don’t say who is supposed to do this. I think we need to think on a proposed change.
- Charley: If they follow this procedure and can document and verify.
- Jim: I will work on this and propose some wording to the group.
- Kathy: We need to make sure there is a deadline for this. Can we get this done and together in a couple weeks? The same goes for the letter.
- Charley: I can do that. We also require they file a record of decommissioning but we don’t say what’s in the record.
- Wayne: We can add a list of what it should require.
- Bill: Or we could just refer to DNR’s form?
- Chris: We could provide information that the state form requires.
- Jim: The form has become a little more complicated recently, and prefer the method of listing the required items. There should be an option for “if available” since some wells have lost a lot of documentation.
- Bill: The decommissioning form from the DNR does have spots for information that is not available.
- Wayne: I don’t see anything wrong with the current form.
- David: We are currently revising the form, so if there any comments for edits, please forward them to me.
- Kathy: We also need to edit the numbering on our document. There are some typos.
- Charley: I will combine the “file a record” sections.
- Kathy: To clarify the current steps is that we have agreed to draft a letter to replace regulation that currently exists and suggest that the engineering group/departments accept it as an approved method until it becomes regulation. The BMPs will not preclude regulations.
- Bill: It seems to me that the construction standards will be regulations as well.
- Kathy: No DEC can’t regulate private wells. We will make the recommendation to DNR.
- Charley: So I need to add Draft to the title?
- Chris: Also a disclaimer and intent of some sort.
- Kathy: We suggest that everyone take this document after final version so that everyone can sign off. Please send an email with agreement.
- Charley: Also, please just reply to the person who sent the email, rather than the whole group.
- John: Could I suggest that we start including dates on the file names? It makes them easier to comprehend which is the most up to date.
- Charley: Yes, we can make that happen.
- Kathy: Before we get into construction BMPS, let’s talk the date for next meeting. Well Drillers busy season is starting up, is there a suggestion for when to meet again?
  - Ted suggested October.
    - Agreement from Lee and Dan.

- Kathy: If we don't meet again until October the group members need to be sure to be active and vocal through conversations via email.
- Rebecca: Please, when an email is sent out to the group, please be vocal so that we know we are reaching you. Sometimes emails looking for feedback are sent, and nothing is ever heard in response.
- Charley: We will want to get signatures for the letter.
  - Kathy: We can just write a list of names of those in agreement. Those who do not want to be included can let us know.
  - John: If they say yes or no to moving forward, give an explanation. This will help to make sure nothing is being missed.
- David: I would hope that this process would allow the "buts" to be addressed. This is the beginning of a process not the end.
- Kathy suggested October 1<sup>st</sup> with general agreement.
- Wayne: Construction standards. All the definitions are taken care of from decommissioning. In 5.0 A.1 – "Well casing without perforations to required depth..." What is required depth?
  - Charley: (to Roy) Do we have a regulation or policy for required depth?
    - Roy: In Class C's we say at least 30 feet. Any other public well has a GWUDI determination performed.
    - Charley: So 30 feet because it doesn't go through a GWUDI determination.
    - Wayne: So I propose a minimum depth of 30 feet instead of required depth.
  - Bill: Comments on definition of an engineer certified by the State as being knowledgeable. They don't do that now.
    - Wayne: I suggest they should.
  - Bill: We don't define hydrofracturing though we use it. The definition of pitless adapter is wanting, it doesn't mean anything.
    - Wayne: So just add "without a pit"?
  - Bill: Yes. Public sewer/water utilities, that's different than the DEC definition.
    - Charley: We can refer to that definition. Currently it says statute, we need to check that then change to DEC regulations.
  - Bill: Screen means filtering device, it's not sediment, it's aquifer material. Wastewater – is that a hazardous waste term?
    - Charley: Hazardous substance is defined, but we should differentiate wastewater from hazardous substance.
    - Jeff W: Division of Water have a definition for wastewater.
    - Charley: Their definition could use some work. I'll review for places where we have words defined. We should try to avoid using too many DEC definitions.
  - Wayne: A lot of this stuff can be solved by email. One other thing I had was section 6 C 5.
    - Craig: Some of these points need to be talked about more at the office with other people.
    - Wayne: Is it even possible/workable in other areas? It was changed for the Municipality of Anchorage, which not necessarily good in the rest of the areas.
    - Charley: Suggest all the contractors come back with some wording. We can then discuss it later.
    - Kathy: May need to differentiate with what you're drilling into.
  - Bill: In addition to the bedrock situation, we should also add a permafrost section.



- Craig: We have the pitless, but nothing about the water line. It always breaks at pipe threads at the cast brass.
  - Ted: Under water conditions we could add stainless steel flex, this may prevent water table from flowing back into aquifer.
  - Wayne: Yes, find out where to add that in. The stainless steel flex is good, but also consider adding double street L.
  - Craig: I've had experience with it breaking at the double street L as well.

### **Wrap-up and next Meeting**

- Next meeting was agreed to take place October 1<sup>st</sup>, 2014 6-8pm

### **Action Items:**

- Private Water Wells website:
  - David – provide input on water rights definition
  - Rebecca – resend link to website, along with instructions on how to navigate there from DEC main page.
- Send updated January 22 Minutes.(Rebecca)
- Send updated March 5 minutes. (Rebecca)
- Make edits/additions to Letter of Recommendation for Well Decommissioning BMPs (Charley, Dave and Wayne)
- Make edits/additions to Well Decommissioning BMPs (Jim, Charley)
- Send Letter of Recommendation with Well Decommissioning BMPs to DEC. (Chris and Charley)
- Make edits to Well Construction BMPs
  - Workgroup members provide input for edits. (Charley, Wayne, Jim)

**Next Meeting: Due to upcoming busy season, it was decided that the next actual meeting will be October 1, 2014 from 6-8pm. However, prior to the meeting, the group will work through email to finalize the Well Decommissioning BMP's and letter from stakeholders group and move the BMP's and letter up through each agency for approval.**